

ADA069183

AD



LEVEL

TECHNICAL REPORT
NATICK/TR-79/012

DIET PRODUCTION GUIDES FOR MODIFIED DIETS
AT WALTER REED ARMY MEDICAL CENTER
PART III : DENTAL LIQUID ENTREES

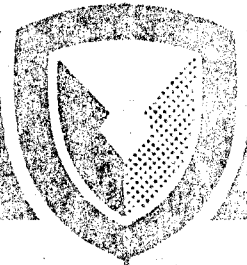
DDC
RECEIVED
MAY 21 1979
OFF C

by
C. P. SHAW
V. A. LOVERIDGE
G. A. DARSCH
and
J. M. TUOMY

MARCH 1979

Approved for public release;
distribution unlimited.

UNITED STATES ARMY
NUTRITION AND DEVELOPMENT COMMAND
NATICK, MASSACHUSETTS 01960



Food Engineering Laboratory
FEL-88

Approved for public release; distribution unlimited.

Citation of trade names in this report does not constitute an official indorsement or approval of the use of such items.

Destroy this report when no longer needed. Do not return it to the originator.

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

18) 19) REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER NATICK TR-79/012	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER 9
4. TITLE (and Subtitle) ENTREE PRODUCTION GUIDES FOR MODIFIED DIETS AT WALTER REED ARMY MEDICAL CENTER. PART III. DENTAL LIQUID ENTREES	5. TYPE OF REPORT & PERIOD COVERED Final rept;	
7. AUTHOR(s) C. P. Shaw, V. A. Loveridge, G. A. Darsch and J. M. Tuomy	6. PERFORMING ORG. REPORT NUMBER FEL-90	
9. PERFORMING ORGANIZATION NAME AND ADDRESS US Army Natick Research & Development Command ATTN: DRDNA-WTA Natick, Massachusetts 01760	8. CONTRACT OR GRANT NUMBER(s)	
11. CONTROLLING OFFICE NAME AND ADDRESS US Army Natick Research & Development Animal Products Group ATTN: DRDNA-WTA Natick, Massachusetts 01760	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS .19 93146919000	12. REPORT DATE March 1979
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)	13. NUMBER OF PAGES 67	15. SECURITY CLASS. (of this report) UNCLASSIFIED
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited 12) 68p. 14) NATICK/FEL-90		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number)		
FOOD PREPARATION COOK-FREEZE SYSTEMS STORAGE STABILITY FROZEN ENTREES	PRODUCTION GUIDES DENTAL LIQUID ENTREES DIET(S) HOSPITAL FEEDING	LIQUID FOODS SENSORY EVALUATION FREEZE DEHYDRATED MEAT WALTER REED ARMY MEDICAL CENTER
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This report contains production guides for 18 Dental Liquid Entrees for use at Walter Reed Army Medical Center (WRAMC). The entrees are formulated to taste like items found in a normal meal. Freeze dehydrated meat, pulverized to a fine powder, provide a basis for both flavor and nutrition. The Dental Liquid items are designed for patients whose teeth are wired together, usually because of a broken jaw. These products have an extremely small particle size ($\frac{1}{2}$ mm) and can be easily sipped through a straw.		

DD FORM 1 JAN 73 1473 EDITION OF 1 NOV 65 IS OBSOLETE

UNCLASSIFIED
SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

408903

less than

LB

PREFACE

This project was completed at the U.S. Army Natick Research and Development Command at the request of personnel of the Walter Reed Army Medical Center and was funded under Intra-Army Order for Reimbursable Services No. S 49193-7008.

The authors wish to thank the Analytical Branch of the Food Sciences Laboratory for performing the nutritional analyses. The assistance of Mr. Robert Scott and Miss Melanie Piscia in carrying out the sensory evaluations is also appreciated.

The following Food Engineering Laboratory personnel listed alphabetically were contributors to the efforts covered in this report:

Mrs. Jesse W. McNutt
Miss Patricia A. Prell
Mr. John L. Secrist
Dr. George C. Walker
Mr. Raymond A. Young

ACCESSION for	
NTIS	White Section <input checked="" type="checkbox"/>
DDC	Buff Section <input type="checkbox"/>
UNANNOUNCED	<input type="checkbox"/>
JUSTIFICATION	
BY	
DISTRIBUTION/AVAILABILITY CODES	
	SPECIAL
A	

TABLE OF CONTENTS

	<u>Page</u>
Preface	1
Forward	5
Introduction	8
Procedure	9
Production Guides	
Beef	
Beef Burgundy	10
Beef Stroganoff	13
Beef with Gravy	16
Beef with Spaghetti Sauce	19
Chili	22
Sloppy Joe	25
Yankee Pot Roast	28
Chicken	
Chicken and Gravy	31
Chicken Cacciatore	34
Chicken Curry	37
Coq au Vin	40
Hawaiian Chicken	43
Ham	
Baked Ham	46
Ham and Cheese Fondue	49
Ham with Pineapple Sauce	52
Pork	
Pork and Beans	55
Pork Creole	58
Sweet and Sour Pork	61
Sensory Evaluations (Table 1)	64
Nutritional Analyses (Table 2)	65
References	66
Index	67

ENTREE PRODUCTION GUIDES FOR RESTRICTED DIETS
AT WALTER REED ARMY MEDICAL CENTER
PART III: DENTAL LIQUID ENTREES

FOREWORD

Cook-freeze systems are becoming increasingly important in the Armed Forces feeding systems, as well as in hospital feeding, both military and non-military. The construction of a new Walter Reed Army Medical Center (WRAMC) using a cook-freeze system resulted in the development at the U.S. Army Natick Research and Development Command (NARADCOM) of 38 guides designed for this system. These guides, published in Technical Report Natick/TR-77/005¹, were designed for regular hospital feeding, either for patients on nonrestricted diets or for cafeteria use. Other production guides for military cook-freeze systems have been published at NARADCOM.^{2, 3, 4, 5, 6}

- ¹ R. Young, C. Shaw, G. Darsch, J. Tuomy and G. Walker; Meat and Fish Entree Item Production Guides Prepared for Walter Reed Army Medical Center. Natick/TR-77/005 (FEL 77-004) April 1977 (A.D. A004476)
- ² R. Helmer, H. Schlup; Meat Entree Production Guides Developed for Use in Fort Lee Interim Central Food Preparation Facility. Natick/TR-74-27 (FEL) March 1975 (A.D. A009733)
- ³ A. Rahman, H. Gorfein, N. Kelley, G. Schafer, W. Swantak and D. Westcott; Production Guides for Vegetables, Entrees, Soups, Desserts, Pastries and Salads Developed for Use in Central Food Preparation Facility. Natick/TR-75-35 (FEL 13) September 1974 (A.D. A001725)
- ⁴ A. Rahman, H. Schlup, G. Schafer, W. Swantak and N. Kelley; Production Guides for Meat and Vegetable Entrees and Desserts Developed for Use in the Frozen Foil Pack Feeding System, F.E. Warren Air Force Base. Natick/TR-70-20 (FEL) February 1976 (A.D. 694354)
- ⁵ J. Tuomy, G. Walker, L. Hinnergardt; Pilot Plant Production of Frozen Entree Items for the Navy. Natick/TR-76-31A (FEL 59) September 1976 (A.D. A031327)
- ⁶ G. Walker, J. Tuomy, C. Kanter; Egg Products for Use in a Cook/Freeze System. Natick/TR-76-28 (FEL 57) August 1976 (A.D. A031327)

At the request of personnel at WRAMC, production guides for modified or restricted diets have been developed at NARADCOM. The dietary restrictions follow the guidelines prescribed by the dietary staff at WRAMC. The requests for production guides for entrees fall into five major categories, each of which are the subjects of Technical Reports:

Part I: Consolidated Modified Meat Entree Production Guides⁷ for patients on:

- a. Calorie restricted, type II, hyperlipoproteinemia^{*} diabetic, bland diets.
- b. Sodium restricted, calorie restricted, type II, hyperlipoproteinemia, diabetic, bland diets.

Part II: Pureed Bland Entree Production Guides⁸ for patients unable to chew regular entrees.

Part III: Dental Liquid Entree Production Guides⁹ for patients on a liquid diet.

Part IV: Meat Substitute Entrees¹⁰ for patients not desiring to eat meat, fish, or poultry.

Part V: Renal diet items¹¹ for patients with restricted protein, potassium and sodium intake.

⁷C. Shaw, G. Darsch, G. Legris, Y. Masuoka and J. Tuomy; Entree Production Guides for Modified Diets at Walter Reed Army Medical Center, Part I: Consolidated Modified Meat Entrees. Natick/TR-79/010 1979.

⁸C. Shaw, V. Loveridge, G. Darsch and J. Tuomy; Entree Production Guides for Modified Diets at Walter Reed Army Medical Center, Part II: Pureed Bland Entrees. Natick/TR-79/011 1979.

⁹C. Shaw, V. Loveridge, G. Darsch and J. Tuomy; Entree Production Guides for Modified Diets at Walter Reed Army Medical Center, Part III: Dental Liquid Entrees. Natick/TR-79/012 1979.

¹⁰G. Darsch, R. Young, C. Shaw and J. Tuomy; Entree Production Guides for Modified Diets at Walter Reed Army Medical Center, Part IV: Meat Substitute Entrees. Natick/TR-79/013 1979.

¹¹J. McNutt, M. Branagan, J. McPhee, L. Albertini and M. Klicka; Entree Production Guides for Modified Diets at Walter Reed Army Medical Center, Part V: Production Guides for Patients on Renal Diets. Natick/TR-79/014 1979.

^{*}Type II hyperlipoproteinemia diets are low in unsaturated fats and cholesterol. Because these diets are also restricted in calories, all fats have been restricted.

The first section, Part I, of Modified Diets consolidates several different types of diet restrictions, thus allowing the hospital to drastically reduce the number of special diets needed. By careful formulation, these products have retained high flavor quality. The second section, Part II, includes diets designed to upgrade the quality and vary the types of pureed diluted foods or commercial baby foods that are usually served to patients requiring a bland diet of pureed consistency. The third type of diet in Part III, the Dental Liquid, represents a totally new concept in liquid feeding. The production guides in this section make up liquid foods having the taste of a regular entree. Thus, instead of drinking sweet milkshake-type products, a patient can order such liquids as chicken curry, ham with raisin sauce, or veal paprika. The fourth section, Part IV, contains production guides for entrees not containing meat, fish, or poultry. These are designed for the increasing numbers of vegetarian patients. Part V, Renal Diets, consists of eight very carefully weighed entrees and one dessert. These items are designed to give some variety in the diet for the patient with renal dysfunction where calories, protein, sodium, and potassium need to be carefully monitored.

For use in the WRAMC facility, all of the production guides, except those for the Renal Diets, have been written in 100-portion servings using both English and metric units and English volumes of liquids. Percentages of each ingredient are given to allow easy conversion to various sized batches. In order that these guides may be helpful to smaller military hospitals, ten serving portions are given, using common (US customary) kitchen measurements. Production guides for the renal diets are based on percentages, twenty-five portions in both metric and customary units and one-portion servings in metric units. Directions for serving the products without the freezing process are given for the benefit of small hospitals which may not have freezing capabilities.

INTRODUCTION

The products termed "Dental Liquids" are those with an extremely small particle size ($< \frac{1}{2}$ mm) which may be sipped through a straw. Such products are needed to feed patients whose jaws must be wired together during medical treatment. Such patients usually cannot eat solid food for a relatively long period of time (six to eight weeks). Currently, these patients are being fed milkshakes, egg-nogs, high protein (usually soy based) milk drinks or diluted strained baby food. The patients quickly tire of the sweet milkshake type of products and the diluted baby foods are very unpalatable. Weight loss is common, and other nutritional deficiencies may occur when patients are fed the Liquid Diets presently available.

The purpose of NARADCOM's Dental Liquid product development was to formulate liquid products tasting like those found in a normal diet. Such items as Chicken Cacciatore, Baked Ham, Chili, and Beef and Gravy show the variety of products developed. This variety should overcome the boredom factor now present in the dietary regimes of patients with wired jaws or others who require a liquid diet.

PROCEDURE

NARADCOM was sent a list of 18 possible Dental Liquid Entrees by personnel at WRAMC. Several entrees were substituted with products which better lend themselves to liquefaction.

An initial problem encountered in developing these products arose from the extremely small particle size requirement ($\leq \frac{1}{2}$ mm) which is necessary not only so that the patient can ingest the food through a straw, but also because larger particles are apt to stick to the wires in the patients' mouth. Reducing fresh meat to such a small particle size resulted in a liquid with a gritty, grainy texture. While this could largely be overcome by the use of a double-stage homogenizer, the purchase and use of such a piece of equipment was considered impractical, particularly for small hospitals. It was found that cooked, freeze-dehydrated meat could easily be pulverized to a fine powder with either a vertical-cutter mixer or a Waring type blender. The use of the pulverized freeze-dehydrated meat thus enabled the development of a smooth liquid drink still relatively high in meat protein.

Upon development of a satisfactory procedure using freeze-dehydrated meat, prototypes of eighteen Dental Liquid Entrees were made. These included seven beef items, five chicken products, three ham and three pork entrees. When the prototypes were judged to be satisfactory, larger production batches were made. These were evaluated by a ten-member technological panel who rated the products for color, odor, flavor, texture, and appearance. Results may be found in Table 1. Proximate nutritional analyses were performed on each product and results may be found in Table 2. Additional samples were put into storage at 0°F (-18°C) for withdrawals for sensory evaluations at three, six, and twelve months. The results of these storage studies will be published upon completion and will give an indication of the shelf-life of these products.

BEEF BURGUNDY

Dental Liquid

Each Portion

8 oz (227g)

Ingredients	Percent	100 Portions		Volume (liquids)	10 Portions	
		Pounds	Grams		Weight	Measure
1. Beef, ground, cooked, freeze dehydrated	6.25	3.44	1560		5 1/2 oz	
Water	64.75	35.60	16,148	4 1/4 gal		6 3/4 cup
2. Tomato paste (26%)	8.10	4.46	2023	2 qt		3/4 cup
Burgundy Flavoring	6.05	3.33	1510	1 1/2 qt		2/3 cup
Onion Powder	2.50	1.38	626			1/2 cup
Worcestershire Sauce	2.00	1.10	500	2 1/4 cup		1/4 cup
Starch, Col-Flo 67	1.00	0.55	249			3 tbsp
Soup and gravy base, beef	1.50	0.82	372			3 tbsp
Sugar, brown	0.70	0.38	172			5 tsp
Garlic, granulated	0.10	0.06	27			3/4 tsp
Celery, ground	0.05	0.03	14			3/4 tsp
3. Margarine	6.00	3.30	1497			2/3 cup
Flour, wheat, general purpose	1.00	0.55	249			8 tsp
TOTALS	100.00	55.00	24,947			

BEEF BURGUNDY

Dental Liquid

PROCEDURE:

- 1a. Pulverize ground, cooked, freeze-dehydrated beef in vertical cutter-mixer or equivalent blender to a fine powder.
- b. Add warm water, 100°F (38°C) and mix for two minutes.
- c. Allow beef and water mixture to stand for 20 minutes to rehydrate.
2. Combine ingredients listed in section 2 of ingredients listing and mix well to disperse starch.
- 3a. Melt margarine.
- b. Make a roux with flour
- c. Add ingredients from steps 1 and 2 and mix well.
- d. Heat mixture to 180°F (82°C).
- e. Add back water to maintain formula weight or volume.
- f. Cool to about 50°F (10°C).
- g. Place 8 oz (227 g) in individual containers.
- h. Cover, label, and freeze.

NOTES:

1. Formula includes 10% overrun. Theoretical yield for 100 portions: 110 servings. Theoretical yield for 10 portions: 11 servings.
2. Final weight for 100 servings is 55.0 lb (24.9 kg). Final volume for 100 servings is 6.7 gal (25.4 L). One gallon (3.8 L) weighs 8.5 lb (3.8 kg).
3. Freeze dehydrated beef should be kept tightly covered and used within 24 hours after opening
4. To serve without freezing, follow directions through step 3e. Serve 8 oz (227 g) portions of heated product.

BEEF BURGUNDY

Dental Liquid

Ingredients

Fruits and Vegetables

1. Garlic, dehydrated, granulated - NSN-8915-00-149-1571, Fed. JJJ-O-1866, Type II.
2. Tomato paste - NSN-8915-00-582-4058, Fed. JJJ-V-1746/22, Type I, concentration d, texture 1.

Cereal and Bakery Products

3. Flour, wheat, general purpose - NSN-8920-00-140-7748, Fed. N-F-00481, Type III, Class B, Style 2.

Sugar, Confectionery and Nuts

4. Sugar, brown - NSN-8925-00-127-7325, Fed. JJJ-S-791, Type II, Class a.

Soups and Boullions

5. Soup and gravy base, instant, beef flavored - NSN-8935-00-753-6423, Fed. EE-B-575, Type I, Class 1, Style A.

Food Fats and Oils

6. Margarine - NSN-8945-00-616-0078, Fed. EE-M-0045, Type I.
7. Worcestershire Sauce - NSN-8950-00-082-6177, Fed. EE-W-600.

Special Procurement

8. Beef, ground, cooked, freeze dehydrated
9. Burgundy flavoring
10. Celery, ground
11. Onion Powder
12. Starch, Col-Flo 67

BEEF STROGANOFF

Dental Liquid

Each Portion

8 oz (227 g)

Ingredients	Percent	100 Portions		Volume (liquids)	10 Portions	
		Pounds	Grams		Weight	Measure
1. Beef, ground, cooked, freeze dehydrated	6.25	3.44	1560		5 1/2 oz	
Water	69.25	38.08	17,273	4 1/2 gal		7 1/4 cup
2. Tomato paste (26%)	5.00	2.75	1247	1 1/4 qt		1/2 cup
Soup and gravy base, beef	1.50	0.82	372			3 tbsp
Onion Powder	1.50	0.82	372			1/3 cup
Starch, Col-Flo 67	1.00	0.55	249			3 tbsp
Juice, Lemon	0.50	0.28	127	1/2 cup		2 1/2 tsp
Paprika	0.25	0.14	64			2 1/2 tsp
Salt, table, iodized	0.25	0.14	64			1 tsp
3. Margarine	4.00	2.20	998			7 tbsp
Flour, wheat, general purpose	0.50	0.28	127			4 tsp
4. Cream, Sour	10.00	5.50	2495	2 1/2 qt		1 cup
TOTALS	100.00	55.50	24,948			

BEEF STROGANOFF

Dental Liquid

PROCEDURE:

- 1a. Pulverize ground, cooked, freeze-dehydrated beef in vertical cutter-mixer or equivalent blender to a fine powder.
- b. Add warm water, 100°F (38°C) and mix for two minutes.
- c. Allow beef and water mixture to stand for 20 minutes to rehydrate.
2. Combine ingredients listed in section 2 of ingredient listing and mix well to disperse starch.
- 3a. Melt margarine.
- b. Make a roux with flour.
- c. Add ingredients from steps 1 and 2 and mix well.
- d. Heat to 180°F (82°C).
- 4a. Cool to 100°F (38°C) and gently fold in sour cream.
- b. Add back water to maintain formula weight or volume.
- c. Cool to about 50°F (10°C).
- d. Place 8 oz (227 g) in individual containers.
- e. Cover, label, and freeze.

NOTES:

1. Formula includes 10% overrun. Theoretical yield for 100 portions: 110 servings. Theoretical yield for 10 portions: 11 servings.
2. Formula weight for 100 servings is 55.0 lb (24.9 kg). Final volume for 100 servings is 6.5 gal (24.6 L). One gallon (3.8 L) weighs 8.4 lb (3.8 kg).
3. Freeze dehydrated beef should be kept tightly covered and be used within 24 hours after opening.
4. To serve without freezing follow directions through step 4b, do not cool product in step 4a.

BEEF STROGANOFF

Dental Liquid

Ingredients

Dairy Foods and Eggs

1. Cream, sour - NSN-8910-00-890-1536, Fed. C-C-678, Type I.

Fruits and Vegetables

2. Juice, lemon, frozen, concentrated - NSN-8915-00-411-2676, MIL-J-11174

3. Tomato paste - NSN-8915-00-582-4058, Fed. JJJ-V-1746/22, Type I, concentration d, texture 1.

Bakery and Cereal Products

4. Flour, wheat, general purpose - NSN-8920-00-140-7748, Fed. N-F-00481, Type III, Class B, Style 2.

Soups and Boullions

5. Soup and gravy base, instant, beef flavored, NSN-8935-00-753-6423, Fed. EE-B-575, Type I, Class 1, Style A.

Food Oils and Fats

6. Margarine - NSN-8945-00-616-0078, Fed. EE-M-0045, Type 1.

Condiments

7. Paprika, ground - NSN-8950-00-170-9563, Fed. EE-S-631.

8. Salt - NSN-8950-00-262-8886, Fed. SS-S-31.

Special Procurement

9. Beef, ground, cooked, freeze-dehydrated.
10. Starch Col-Flo 67
11. Onion Powder

BEEF WITH GRAVY

Dental Liquid

Each Portion

8 oz (227 g)

Ingredients	Percent	100 Portions		Volume (liquids)	10 Portions	
		Pounds	Grams		Weight	Measure
1. Beef, ground, cooked, freeze dehydrated	6.25	3.44	1560		5 1/2 oz	
Water	78.70	43.28	19,632	5 1/4 gal		1/2 gal
2. Soup and gravy base, beef	2.30	1.26	572			1/3 cup
Starch Col-Flo 67	1.50	0.82	372			1/4 cup
Tomato paste (26%)	1.50	0.83	376	1 1/2 cup		7 tsp
Salad oil	1.50	0.83	376	1 2/3 cup		7 tsp
Onion Powder	1.30	0.72	327			1/4 cup
Caramel color, powdered	0.15	0.08	36			1 1/2 tsp
3. Margarine	6.00	3.30	1497			2/3 cup
Flour, wheat, general purpose	0.80	0.44	200			7 tsp
TOTALS	100.00	55.00	24,948			

BEEF WITH GRAVY

Dental Liquid

PROCEDURE:

- 1a. Pulverize freeze-dehydrated, ground, cooked beef in vertical cutter-mixer or an equivalent blender to a fine powder
- b. Add warm water 100°F (38°C) mix for two minutes.
- c. Allow beef and water mixture to stand for 20 minutes to rehydrate.
2. Combine ingredients listed in section 2 of ingredients listing and mix well to disperse starch.
- 3a. Melt margarine.
- b. Make a roux with flour.
- c. Add ingredients from steps 1 and 2 and mix well.
- d. Heat to 180°F (82°C).
- e. Add back water to maintain formula weight or volume.
- f. Cool to above 50°F (10°C).
- g. Place 8 oz (227 g) in individual container.
- h. Cover, label, and freeze.

NOTES:

1. Formula includes 10% overrun. Theoretical yield for 100 portions: 110 servings. Theoretical yield for 10 portions: 11 servings.
2. Final weight for 100 servings is 55.03 lb (24.9 kg). Final volume for 100 servings is 6.52 gal (24.6 L). One gallon (3.8 L) weighs 8.4 lb (3.8 kg).

BEEF WITH GRAVY

Dental Liquid

Ingredients

Fruits and Vegetables

1. Tomato paste - NSN-8915-00-582-4058, Fed. JJJ-V-1746/22, Type I, concentration d, texture 1.

Bakery and Cereal Products

2. Flour, wheat, general purpose - NSN-8920-00-140-7748, Fed. N-F-00481, Type III, Class B, Style 2.

Soups and Boullion

3. Soup and gravy base, instant, beef flavored.- NSN-8935-00-753-6423, Fed. EE-B-575, Type I, Class 1, Style A.

Food Oils and Fats

4. Margarine - NSN-8945-00-616-0078, Fed. EE-M-0045, Type 1.

5. Salad Oil - NSN-8945-00-616-0082, Fed. JJJ-S-30, Type B.

Special Procurement

6. Beef, ground, cooked, freeze-dehydrated

7. Caramel color, powdered

8. Onion Powder

9. Starch, Col-Flo 67

BEEF WITH SPAGHETTI SAUCE

Dental Liquid

Each Portion

8 oz (227 g)

Ingredients	Percent	100 Portions		Volume (liquids)	10 Portions	
		Pounds	Grams		Weight	Measure
1. Beef, ground, cooked, freeze dehydrated	6.25	3.44	1560		5 1/2 oz	
Water	67.33	37.04	16,801	4 1/2 gal		7 cup
2. Tomato paste (26%)	15.10	8.31	3769	1 gal		1 1/2 cup
Parmesan cheese, grated	4.40	2.42	1098			1 cup
Onion Powder	2.60	1.43	649			1/2 cup
Garlic, granulated	0.80	0.44	200			2 tbsp
Sugar	0.80	0.44	200			4 tsp
Starch, Col-Flo 67	0.30	0.16	73			1 tbsp
Salt, table, iodized	0.30	0.16	73			1 tsp
Oregano, ground	0.20	0.11	50			1 tbsp
Basil, ground	0.10	0.06	27			2 tsp
Pepper, black, ground	0.02	0.01	5			1/4 tsp
3. Margarine	1.50	0.82	372			3 tbsp
Flour, wheat, general purpose	0.30	0.16	73			2 1/4 tsp
TOTALS	100.00	55.00	24,950			

BEEF WITH SPAGHETTI SAUCE

Dental Liquid

PROCEDURE:

- 1a. Pulverize freeze-dehydrated, ground, cooked beef in vertical cutter-mixer or equivalent blender to a fine powder.
- b. Add warm water, 100°F (38°C) mix for two minutes.
- c. Allow beef and water mixture to stand for 20 minutes to rehydrate.
2. Combine ingredients listed in section 2 of ingredient listing and mix well to disperse starch.
- 3a. Melt margarine.
- b. Make a roux with flour.
- c. Add ingredients from steps 1 and 2 and mix well.
- d. Heat to 180°F (82°C).
- e. Add back water to maintain formula weight or volume.
- f. Cool to above 50°F (10°C).
- g. Place 8 oz (227 g) in individual containers.
- h. Cover, label, and freeze.

NOTES:

1. Formula includes 10% overrun. Theoretical yield for 100 portions formula: 110 servings. Theoretical yield for 10 portions formula: 11 servings.
2. Final weight for 100 servings is 55 lb (249 kg). Final volume for 100 servings is 6.5 gal (24.6 L). One gallon (3.8 L) weighs 8.4 lb (3.8 kg).
3. Freeze-dehydrated beef should be kept tightly covered and be used within 24 hours after opening.
4. To serve without freezing, follow directions through step 3e. Serve 8 oz (227 g) portions of heated product.

BEEF WITH SPAGHETTI SAUCE

Dental Liquid

Ingredients

Dairy Foods and Eggs

1. Cheese, grated, Parmesan - NSN-8910-00-782-3765, Fed. C-C-285, Type I, Class 1.

Fruits and Vegetables

2. Garlic, dehydrated, granulated - NSN-8915-00-149-1571, Fed. JJJ-O-1866, Type II.
3. Tomato paste - NSN-8915-00-582-4058, Fed. JJJ-V-1746/22, Type I, concentration d, texture 1.

Cereal and Bakery Products

- Flour, wheat, general purpose - NSN-8920-00-140-7748, Fed. N-F-00481, Type III, Class B, Style 2.

Sugar, Confectionary and Nuts

5. Sugar - NSN-8925-00-127-3073, Fed. JJJ-S-791, Type I, Class A.

Food Oils and Fats

6. Margarine - NSN-8945-00-616-0078, Fed. EE-M-0045, Type I.

Condiments and Related Products

7. Basil, sweet, ground - NSN-8950-00-404-6066, Fed. EE-S-631, Type II.
8. Oregano, ground - NSN-8950-00-582-1402, Fed. EE-S-631, Type II.
9. Pepper, black, ground - NSN-8950-00-616-5486, Fed. EE-S-631, Type II.
10. Salt, table, iodized - NSN-8950-00-262-8886, Fed. SS-S-31.

Special Procurement

11. Beef, ground, cooked, freeze dehydrated.
12. Onion Powder
13. Starch, Col-Flo 67

YOUR INTEREST WITH US

CHILI

Dental Liquid

Each Portion

8 oz (227 g)

Ingredients	Percent	100 Portions		Volume (liquids)	10 Portions	
		Pounds	Grams		Weight:	Measure
1. Beef, ground cooked, freeze dehydrated	6.25	3.44	1560		5 1/2 oz	
Water	68.93	37.91	17,196	4 1/2 gal		7 1/4 cup
2. Beans, red kidney, canned	5.00	2.75	1247			1/2 cup
3. Tomato paste (26%)	10.00	5.50	2495	2 1/2 qt		1 cup
Salad oil	3.00	1.65	748	3 1/4 cup		1/3 cup
Onion Powder	2.50	1.38	626			1/2 cup
Chili Powder	1.40	0.77	349			1/3 cup
Garlic, granulated	0.80	0.44	200			2 tbsp
Sugar	0.80	0.44	200			4 tsp
Starch, Col-Flo 67	0.60	0.33	150			5 1/4 tsp
Flour, wheat general purpose	0.40	0.22	100			1 tbsp
Salt, table, iodized	0.30	0.16	72			1 tsp
Pepper, black, ground	0.02	0.01	4			1/8 tsp
TOTALS	100.00	55.00	24947			

CHILI

Dental Liquid

PROCEDURE:

- 1a. Pulverize freeze-dehydrated, cooked, ground beef in vertical cutter-mixer or an equivalent blender to a fine powder.
- b. Add warm water 100°F (38°C) and mix for two minutes.
- c. Allow beef and water mixture to stand for 20 minutes to rehydrate.
2. Add kidney beans to above and mix in vertical cutter mixer for 2 minutes.
- 3a. Combine ingredients listed in section 3 of ingredients listing and mix well to disperse starch.
- b. Combine ingredients from steps 1, 2, and 3 and mix well.
- c. Heat to 180°F (82°C).
- d. Add back water to maintain formula weight or volume.
- e. Cool to about 50°F (10°C).
- f. Place 8 oz (227 g) in individual containers.
- g. Cover, label, and freeze.

NOTES:

1. Formula includes 10% overrun. Theoretical yield for 100 portions: 110 servings. Theoretical yield for 10 portions: 11 servings.
2. Final weight for 100 servings is 55.0 lb (24.9 kg). Final volume for 100 servings is 6.4 gal (24.3 L). One gallon (3.8 L) weighs 8.5 lb (3.8 kg).
3. Freeze dehydrated beef should be kept tightly covered and used within 24 hours after opening.
4. To serve without freezing, follow directions through step 3d. Serve 8 oz (227 g) portions of heated product.

CHILI

Dental Liquid

Ingredients

Fruits and Vegetables

1. Beans, kidney, canned - NSN-8915-00-146-6713, Grade C, #303 size can, Fed. JJJ-B-101, Type I, Class 3, Style b.
2. Garlic, dehydrated, granulated - NSN-8915-00-616-5465, Fed. JJJ-O-1866, Type II.
3. Tomato Paste - NSN-8915-00-582-4058, Fed. JJJ-V-1746/22, Type I, concentration d, texture 1.

Bakery and Cereal Products

4. Flour, wheat, general purpose - NSN-8920-00-140-7748, Fed. N-F-00481, Type III, Class B, Style 2.

Sugar, Confectionery and Nuts

5. Sugar - NSN-8925-00-127-3073, Fed. JJJ-S-791, Type I, Class A.

Food Fats and Oils

6. Salad oil - NSN-8945-00-616-0082, Fed. JJJ-S-30, Type B.

Condiments and Related Products

7. Chili Powder - NSN-8950-00-128-0435, Fed. EE-S-631, Type I.
8. Pepper, black, ground - NSN-8950-00-616-5486, Fed. EE-S-631, Type II.
9. Salt, table, iodized - NSN-8950-00-262-8886, Fed. SS-S-31

Special Procurement

10. Beef, ground, cooked, freeze dehydrated
11. Onion Powder
12. Starch, Col-Flo 67

SLOPPY JOE

Each Portion

Dental Liquid

8 oz (227 g)

Ingredients	Percent	100 Portions		Volume (liquids)	10 Portions	
		Pounds	Grams		Weight	Measure
1. Beef, ground cooked, freeze dehydrated	6.25	3.44	1560		5 1/2 oz	
Water	74.17	40.77	18493	4 3/4 gal		1/2 gal
2. Tomato paste (26%)	9.60	5.28	2400	2 1/2 qt		1 cup
Sugar	2.00	1.10	499			1/4 cup
Vinegar, cider (50%)	1.90	1.05	476	2 cup		1/4 cup
Starch, Col-Flo 67	1.50	0.83	374			1/4 cup
Onion Powder	1.30	0.72	327			1/4 cup
Flour, wheat, general purpose	0.80	0.44	200			2 tbsp
Salt, table, iodized	0.80	0.44	200			1 tbsp
Worcestershire Sauce	0.60	0.33	150	2/3 cup		1 tbsp
Liquid Smoke	0.40	0.22	99	7 tbsp		2 tsp
Celery, ground, dehydrated	0.20	0.11	50			1 tbsp
Monosodium glutamate	0.20	0.11	50			1 1/2 tsp
Garlic, granulated	0.13	0.07	32			1 tsp
Pepper, black, ground	0.10	0.06	27			1 1/8 tsp
Cloves, ground	0.05	0.03	14			1/2 tsp
TOTALS	100.00	55.00	24951			
			25			

SLOPPY JOE

Dental Liquid

PROCEDURE:

- 1a. Pulverize freeze-dehydrated, ground, cooked beef in vertical cutter-mixer or equivalent blender to a fine powder.
- b. Add warm water, 100°F (38°C) and mix for two minutes.
- c. Allow beef and water mixture to stand for 20 minutes to rehydrate.
2. Combine ingredients listed in section 2 of ingredient listing and mix well to disperse starch.
 - b. Add ingredients from step 1 and mix well.
 - c. Heat to 180°F (82°C).
 - d. Add back water to maintain formula weight or volume.
 - e. Cool to about 50°F (10°C).
 - f. Place 8 oz (227 g) in individual containers.
 - g. Cover, label, and freeze.

NOTES:

1. Formula includes 10% overrun. Theoretical yield for 100 portions: 110 servings. Theoretical yield for 10 portions formula: 11 servings.
2. Final weight for 100 servings is 55 lb (24.9 kg). Final volume for 100 servings is 6.7 gal (25.3 L). One gallon (3.8 L) weighs 8.2 lb (3.7 kg).
3. Freeze dehydrated beef should be kept tightly covered and used within 24 hours after opening.
4. To serve without freezing, follow directions through step 2d. Serve 8 oz (227 g) portions of heated product.

SLOPPY JOE

Dental Liquid

Ingredients

Vegetables

1. Garlic, dehydrated, granulated - NSN-8915-00-149-1571, Fed. JJJ-0-1866, Type II.
2. Tomato Paste - NSN-8915-00-582-4058, Fed. JJJ-V01746/22, Type I, concentration d, texture 1.

Bakery and Cereal Products

3. Flour, wheat, general purpose - NSN-8920-00-140-7748, Fed. N-F-00481, Type III, Class B, Style 2.

Condiments and Related Products

4. Cloves, ground - NSN-8950-00-170-9571, Fed. EE-S-631, Type II.
5. Monosodium Glutamate - NSN-8950-00-111-6574, Fed. EE-M-591.
6. Pepper, black - NSN-8950-00-616-5486, Fed. EE-S-631, Type II.
7. Salt - NSN-8950-00-262-8886, Fed. SS-S-31.
8. Sugar - NSN-8925-00-127-3073, Fed. JJJ-S-791, Type I, Class A.
9. Vinegar - NSN-8950-00-221-0297, Fed. Z-V-401, Type I, Strength B (50%).
10. Worcestershire Sauce - NSN-8950-00-082-6177, Fed. EE-W-600.

Special Procurement

11. Beef, ground, cooked, freeze dehydrated
12. Celery, ground
13. Onion Powder
14. Smoke, liquid, Char-sol C-3
15. Starch, Col-Flo 67

YANKEE POT ROAST

Each Portion

8 oz (227 g)

Ingredients	Percent	100 Portions		Volume (liquids)	10 Portions	
		Pounds	Grams		Weight:	Measure
1. Beef, ground, cooked, freeze dehydrated	6.25	3.44	1560		5 1/2 oz	
Water	71.423	39.274	17815	4 3/4 gal		7 1/2 cup
2. Carrots, sliced	5.05	2.78	1261			3/4 cup
3. Tomato paste (26%)	9.00	4.95	2245	2 1/3 qt		1 cup
Sugar, granulated	2.60	1.43	649			1/4 cup
Vinegar, cider (5%)	1.65	0.91	413	1 3/4 cup		3 tbsp
Starch Col-Flo 67	1.50	0.83	376			1/4 cup
Flour, wheat, general purpose	1.00	0.55	249			3 tbsp
Salt, table, iodized	0.80	0.44	200			1 tbsp
Onion Powder	0.70	0.38	172			2 tbsp
Pepper, black, ground	0.01	0.006	3			1/8 tsp
Garlic, granulated	0.01	0.006	3			<1/8 tsp (pinch)
Thyme, ground	0.004	0.002	1			<1/8 tsp (pinch)
Clove, ground	0.002	0.001	0.5			<1/8 tsp (pinch)
Bay leaves, ground	0.001	0.001	0.5			<1/8 tsp (pinch)
TOTALS	100.00	55.00	24948			
			28			

YANKEE POT ROAST

Dental Liquid

PROCEDURE:

- 1a. Pulverize ground, cooked, freeze-dehydrated beef in vertical cutter-mixer or equivalent blender to a fine powder.
- b. Add warm water, 100°F (38°C) and mix for two minutes.
- c. Allow beef and water mixture to stand for 20 minutes to rehydrate.
- 2a. Thinly slice carrots and cook until tender.
- b. Add carrots to rehydrated beef in vertical cutter-mixer or blender and blend until smooth.
- 3a. Combine ingredients listed in section 3 of ingredients listing and mix well to disperse starch.
- b. Add ingredients from steps 1 and 2 and mix well.
- c. Heat to 180°F (82°C).
- d. Add back water to maintain formula weight or volume.
- e. Cool to about 50°F (10°C).
- f. Place 8 oz (227 g) in individual containers.
- g. Cover, label and freeze.

NOTES:

1. Formula includes 10% overrun. Theoretical yield for 100 portions: 110 servings. Theoretical yield for 10 portions: 11 servings.
2. Final weight for 100 servings is 55 lb (24.9 kg). Final volume for 100 servings is 6.8 gal (25.7 L). One gallon (3.8 L) weighs 8.1 lb (3.6 kg).
3. Freeze-dehydrated beef should be kept tightly covered and used within 24 hours after opening.
4. To serve without freezing, follow directions through step 3d. Serve 8 oz (227 g) portions of heated product.

YANKEE POT ROAST

Dental Liquid

Ingredients

Fruits and Vegetables

1. Carrots, fresh - NSN-8915-00-127-8019, Fed. HHH-V-1744/10 or carrots, frozen, sliced - NSN-8915-00-162-5087, Fed. HHH-V-1745/6, Style IV.
2. Garlic, dehydrated, granulated - NSN-8915-00-149-1571, Fed. JJJ-O-1866, Type II
3. Tomato paste - NSN-8915-00-582-4058, Fed. JJJ-V-1746/22, Type I, concentration d, texture 1.

Cereals and Bakery Goods

4. Flour, wheat, general purpose - NSN-8920-00-140-7748, Fed. N-F-00481, Type III, Class B, Style 2.

Condiments and Related Products

5. Cloves, ground - NSN-8950-00-170-9571, Fed. EE-S-631, Type II.
6. Pepper, black, ground - NSN-8950-00-616-5486, Fed. EE-S-631, Type II.
7. Salt, table, iodized - NSN-8950-00-262-8886, Fed. SS-S-31.
8. Sugar - NSN-8925-00-127-3073, Fed. JJJ-S-791, Type I, Class A.
9. Thyme, ground - NSN-8950-00-616-5483, Fed. EE-S-631, Type II.
10. Vinegar, cider - NSN-8950-00-221-0297, Fed. Z-V-401. Type I, Strength B (5%).

Special Procurement

11. Bay leaves, ground
12. Beef, ground, cooked, freeze dehydrated
13. Onion Powder
14. Starch, Col-Flo 67

CHICKEN AND GRAVY

Each Portion

Dental Liquid

8 oz (227 g)

Ingredients	Percent	100 Portions		Volume (liquids)	10 Portions	
		Pounds	Grams		Weight:	Measure
1. Chicken, cooked ground, freeze dehydrated	6.25	3.44	1560		5 1/2 oz	
Water	40.71	22.39	10,156	2 2/3 gal		4 1/4 cup
2 Chicken broth, canned	40.50	22.28	10,106	2 3/4 gal		4 1/3 cup
Soup and gravy base, chicken	1.50	0.82	372			3 tbsp
Onion Powder	1.50	0.82	372			1/3 cup
Starch Col-Flo 67	1.40	0.77	349			1/4 cup
Salad oil	1.30	0.72	327	1 1/2 cup		7 tsp
Pepper, white, ground	0.02	0.01	5			1/4 tsp
Celery, ground	0.02	0.01	5			1/4 tsp
3. Margarine	6.00	3.30	1497			2/3 cup
Flour, wheat, general purpose	0.80	0.44	200			6 1/2 tsp
TOTALS	100.00	55.00	24,949			

CHICKEN AND GRAVY

Dental Liquid

PROCEDURE:

- 1a. Pulverize cooked, ground, freeze dehydrated chicken in vertical cutter-mixer or equivalent blender to a fine powder.
- b. Add warm water, 100°F (38°C) and mix for two minutes.
- c. Allow chicken and water mixture to stand for 20 minutes to rehydrate.
2. Combine ingredients listed in section 2 of ingredients listing and mix well to disperse starch.
- 3a. Melt margarine.
- b. Make a roux with flour.
- c. Add ingredients from steps 1 and 2 and mix well.
- d. Heat to 180°F (82°C).
- e. Add back water to maintain formula weight or volume.
- f. Cool to about 50°F (10°C).
- g. Place 8 oz (227 g) in individual containers.
- h. Cover, label, and freeze.

NOTES:

1. Formula includes 10% overrun. Theoretical yield for 100 portions: 110 servings. Theoretical yield for 10 portions: 11 servings.
2. Final weight for 100 servings is 55 lb (24.9 kg). Final volume for 100 servings is 6.5 gal (24.6 L). One gallon (3.8 L) weighs 8.5 lb (3.8 kg).
3. Freeze dehydrated chicken should be kept tightly covered and be used within 24 hours after opening.
4. To serve without freezing, follow directions through step 3e. Serve 8 oz (227 g) portions of heated product.

CHICKEN AND GRAVY

Dental Liquid

Ingredients

Bakery and Cereal Products

1. Flour, wheat, general purpose - NSN-8920-00-140-7748, Fed. N-F-00481, Type III, Class B, Style 2.

Soups and Boullion

2. Soup and gravy base, instant, chicken flavored - NSN-8935-00-753-6424, Fed. EE-B-575, Type II, Class 1, Style A.

Food Oils and Fats

3. Margarine - NSN-8945-00-616-0078, Fed. EE-M-0045, Type I.
4. Salad oil - NSN-8945-00-616-0082, Fed. JJJ-S-30, Type B.

Condiments and Related Products

5. Pepper, white, ground - NSN-8950-00-245-2302, Fed. EE-S-631, Type II.

Special Procurement

6. Celery, ground
7. Chicken, ground, cooked, freeze dehydrated
8. Chicken, broth, canned
9. Onion Powder
10. Starch, Col-Flo 67

CHICKEN CACCIATORE

Each Portion

8 oz (227 g)

Dental Liquid

Ingredients	Percent	100 Portions		Volume (liquids)	10 Portions	
		Pounds	Grams		Weight:	Measure
1. Chicken, cooked ground, freeze dehydrated	6.25	3.44	1560		5 1/2 oz	
Chicken broth	30.00	16.49	7480	2 gal		3 1/4 cup
Peppers, green, frozen, diced	3.00	1.66	753			1/2 cup
2. Chicken broth	43.87	24.13	10945	3 gal		4 3/4 cup
Tomato paste	12.27	6.75	3061	3 1/4 qt		1 1/4 cup
Salad oil	1.64	0.90	408	1 3/4 cup		3 tbsp
Onion Powder	1.23	0.68	308			1/4 cup
Sugar	0.65	0.36	163			3 1/2 tsp
Salt, table, iodized	0.25	0.13	59			1 tsp
Garlic, granulated	0.41	0.23	104			1 tbsp
Starch, Col-Flo 67	0.20	0.11	50			1 3/4 tsp
Oregano, ground	0.12	0.06	27			1 1/2 tsp
Basil, ground	0.09	0.05	23			1 1/2 tsp
Pepper, white, ground	0.02	0.01	5			1/4 tsp
TOTALS	100.00	55.00	24946			

CHICKEN CACCIATORE

Dental Liquid

PROCEDURE:

- 1a. Pulverize cooked, ground, freeze-dehydrated chicken in vertical cutter-mixer or equivalent blender to a fine powder.
- b. Add chicken broth and mix for two minutes.
- c. Allow chicken and chicken broth mixture to stand for twenty minutes to rehydrate.
- d. Add green peppers and mix for one minute or until well blended.
- 2a. Combine ingredients listed in section 2 of ingredients listing and mix well to disperse starch.
- b. Combine ingredients from steps 1 and 2 and mix well.
- c. Heat to 180°F (82°C).
- d. Add back water to maintain formula weight and volume.
- e. Cool to about 50°F (10°C).
- f. Place 8 oz (227 g) in individual containers.
- g. Cover, label, and freeze.

NOTES:

1. Formula includes 10% overrun. Theoretical yield for 100 portions: 110 servings. Theoretical yield for 10 portions: 11 servings.
2. Final weight for 100 servings is 55.0 lb (25.0 kg). Final volume for 100 servings is 6.5 gal (24.6 L). One gallon (3.8 L) weighs 8.5 lb (3.8 kg).
3. Freeze dehydrated chicken should be kept tightly covered and be used within 24 hours after opening.
4. To serve without freezing, follow directions through step 2d. Serve 8 oz (227 g) portions of heated product.

CHICKEN CACCIATORE

Dental Liquid

Ingredients

Fruits and Vegetables

1. Garlic, dehydrated, granulated - NSN-8915-00-149-1571, Fed. JJJ-0-1866, Type II.
2. Peppers, green, frozen, diced - NSN-8915-00-081-0856, Fed. HHH-V-1745/15, Type I, Style E.
3. Tomato paste - NSN-8915-00-582-4058, Fed. JJJ-V-1746/22, Type I, Concentration d, texture 1.

Sugar, Confectionery and Nuts

4. Sugar - NSN-8925-00-127-3073, Fed. JJJ-S-791, Type I, Class A.

Food Oils and Fats

5. Salad oil - NSN-8945-00-616-0082, Fed. JJJ-S-30, Type B.

Condiments and Related Products

6. Basil, ground - NSN-8950-00-404-6066, Fed. EE-S-631, Type II.
7. Oregano, ground - NSN-8950-00-582-1402, Fed. EE-S-631, Type II.
8. Pepper, white, ground - NSN-8950-00-245-2302, Fed. EE-S-631, Type II.
9. Salt, table, iodized - NSN-8950-00-262-8886, Fed. SS-S-31.

Special Procurement

10. Chicken broth, canned
11. Chicken, cooked, ground, freeze-dehydrated
12. Onion Powder
13. Starch, Col-Flo 67

CHICKEN CURRY

Dental Liquid

Each Portion

8 oz (227 g)

Ingredients	Percent	100 Portions		Volume (liquids)	10 Portions	
		Pounds	Grams		Weight	Measure
1. Chicken, cooked, ground, freeze dehydrated	6.25	3.44	1560		5 1/2 oz	
Chicken, broth	40.00	22.00	9979	2 3/4 gal		1 qt
2. Chicken, broth, canned	47.50	26.12	11848	3 1/4 gal		1 1/3 qt
Salad oil	2.00	1.10	499	2 1/4 cup		1/4 cup
Onion Powder	1.50	0.82	372			1/4 cup
Starch, Col-Flo 67	1.00	0.55	249			3 tbsp
Curry Powder	0.85	0.47	213			6 3/4 tsp
Sugar	0.80	0.44	200			4 1/4 tsp
Celery, ground	0.10	0.06	27			1 1/2 tsp
TOTALS	100.00	55.00	24947			

CHICKEN CURRY

Dental Liquid

PROCEDURE:

- 1a. Pulverize cooked, ground, freeze-dehydrated chicken in vertical cutter-mixer or equivalent blender to a fine powder.
- b. Add chicken broth listed in section 1 of ingredient listing and mix for two minutes.
- c. Allow chicken and broth to stand for twenty minutes to rehydrate.
- 2a. Combine ingredients listed in section 2 of ingredient listing and mix well to disperse starch.
- b. Combine ingredients from step 1 and 2 and mix well.
- c. Heat to 180°F (82°C).
- d. Add back water to maintain formula weight or volume.
- e. Cool to about 50°F (10°C).
- f. Place 8 oz (227 g) in individual containers.
- g. Cover, label, and freeze.

NOTES:

1. Formula includes 10% overrun. Theoretical yield for 100 portions: 110 servings. Theoretical yield for 10 portions: 11 servings.
2. Final weight for 100 servings is 55 lb (24.9 kg). Final volume for 100 servings is 6.5 gal (24.6 L). One gallon (3.8 L) weighs 8.5 lb (3.8 kg).
3. Freeze dehydrated chicken should be kept tightly covered and used within 24 hours after opening.
4. To serve without freezing, follow directions through step 2d. Serve 8 oz (227 g) portions of heated product.

CHICKEN CURRY

Dental Liquid

Ingredients

Sugar, Confectionery and Nuts

1. Sugar - NSN-8925-00-127-3073, Fed. JJJ-S-791, Type I, Class A.

Food Oils and Fats

2. Salad oil - NSN-8945-00-616-0082, Fed. JJJ-S-30, Type B.

Condiments and Related Products

3. Curry Powder - NSN-8950-00-616-5489, Fed. EE-S-631, Type II.

Special Procurement

4. Celery, ground
5. Chicken broth, canned
6. Chicken, cooked, ground, freeze-dehydrated
7. Onion Powder
8. Starch, Col-Flo 67

COQ AU VIN
(CHICKEN WITH WINE)

Each Portion

Dental Liquid

8 oz (227 g)

Ingredients	Percent	100 Portions		Volume (liquids)	10 Portions	
		Pounds	Grams		Weight:	Measure
1. Chicken, cooked, ground, freeze dehydrated	6.25	3.44	1560		5 1/2 oz	
Chicken broth, canned	30.00	16.50	7484	2 gal		3 1/3 cup
2. Mushrooms, canned, drained	4.00	2.20	998			2/3 cup
3. Chicken broth, canned	41.22	22.665	10281	2 3/4 gal		4 1/2 cup
Tomato paste	4.00	2.20	998	1 qt		1/3 cup
Onion Powder	1.50	0.83	376			1/3 cup
Starch, Col-Flo 67	1.00	0.55	249			3 tbsp
Sugar	0.80	0.44	199			4 1/4 tsp
Garlic, granulated	0.40	0.22	100			1 tbsp
Salt, table, iodized	0.30	0.17	77			1 1/4 tsp
Pepper, black, ground	0.02	0.01	5			1/4 tsp
Bay leaves, ground	0.01	0.005	2			1/8 tsp (pinch)
4. Margarine	4.00	2.20	998			7 tbsp
Flour, wheat, general purpose	0.50	0.27	122			4 tsp
5. Flavoring, burgundy	6.00	3.30	1497	1 2/3 qt		2/3 cup
TOTALS	100.00	55.00	24948 40			

COQ AU VIN
(CHICKEN WITH WINE)

Dental Liquid

PROCEDURE:

- 1a. Pulverize cooked, ground, freeze dehydrated chicken in vertical cutter-mixer or equivalent blender to a fine powder.
- b. Add chicken broth and mix for two minutes.
- c. Allow chicken and broth mixture to stand for 20 minutes to rehydrate.
2. Add canned, drained mushrooms to chicken and broth in vertical cutter mixer or blender and blend thoroughly.
3. Combine ingredients listed in section 3 of ingredient listing and mix well to disperse starch.
- 4a. Melt margarine.
- b. Make a roux with flour.
- c. Add ingredients from steps 1, 2, and 3 and mix well.
- d. Heat to 180°F (82°C).
- 5a. Add burgundy flavoring.
- b. Add back water to maintain formula weight or volume.
- c. Cool to about 50°F (10°C).
- d. Place 8 oz (227 g) in individual containers.
- e. Cover, label and freeze.

NOTES:

1. Formula includes 10% overrun. Theoretical yield for 100 portions: 110 servings. Theoretical yield for 10 portions: 11 servings.
2. Final weight for 100 servings is 55 lb (24.9 kg). Final volume for 100 servings is 6.5 gal (24.6 L). One gallon (3.8 L) weighs 8.5 lb (3.8 kg).
3. Freeze dehydrated chicken should be kept tightly covered and be used within 24 hours after opening.
4. To serve without freezing, follow directions through step 5b. Serve 8 oz (227 g) portions of heated product.

COQ AU VIN
(CHICKEN AND WINE)

Dental Liquid

Ingredients

Fruits and Vegetables

1. Garlic, dehydrated, granulated - NSN-8915-00-149-1571, Fed. JJJ-0-1866, Type II.
2. Mushrooms, canned - NSN-8915-00-935-6629, Fed. JJJ-V-1746/9, Type II, Style E.
3. Tomato paste - NSN-8915-00-582-4058, Fed. JJJ-V-1746/22, Type I, concentration d, texture 1.

Bakery and Cereal Products

4. Flour, wheat, general purpose - NSN-8920-00-140-7748, Fed. N-F-00481, Type III, Class B, Style 2.

Sugar, Confectionery and Nuts

5. Sugar - NSN-8925-00-127-3073, Fed. JJJ-S-791, Class A, Type I.

Food Oils and Fats

6. Margarine - NSN-8945-00-616-0078, Fed. EE-M-0045, Type I.

Condiments and Related Products

7. Pepper, black, ground - NSN-8950-00-616-5486, Fed. EE-S-631, Type II.
8. Salt, table, iodized - NSN-8950-00-262-8886, Fed. SS-S-31.

Special Procurement

9. Bay leaves, ground
10. Burgundy flavoring
11. Chicken broth, canned
12. Chicken, cooked, ground, freeze dehydrated
13. Onion Powder
14. Starch, Col-Flo 67

HAWAIIAN CHICKEN

Each Portion

Dental Liquid

8 oz (227 g)

Ingredients	Percent	100 Portions		Volume (liquids)	10 Portions	
		Pounds	Grams		Weight	Measure
1. Chicken, cooked, ground, freeze dehydrated	6.25	3.44	1560		5 1/2 oz	
Chicken broth, canned	30.00	16.50	7434	2 gal		3 1/3 cup
2. Pineapple, crushed drained	10.00	5.50	2495	2 1/2 qt		1 cup
3. Chicken broth, canned	48.36	26.60	12066	3 1/3 gal		5 1/3 cup
Salad oil	3.00	1.65	748	3 1/3 cup		1/3 cup
Onion Powder	1.00	0.55	249			3 tbsps
Starch, Col-Flo 67	0.80	0.44	200			7 tsp
Juice, lemon, reconstituted	0.50	0.27	122	1/2 cup		2 1/2 tsp
Cinnamon, ground	0.04	0.02	9			1/3 tsp
Allspice, ground	0.03	0.02	7			1/3 tsp
Celery, ground	0.02	0.01	4			1.4 tsp
TOTALS	100.00	55.00	24944			

HAWAIIAN CHICKEN

Dental Liquid

PROCEDURE:

- 1a. Pulverize cooked, ground, freeze-dehydrated chicken in vertical cutter-mixer or equivalent blender to a fine powder.
- b. Add chicken broth and mix for two minutes.
- c. Allow chicken and water to stand for 20 minutes to rehydrate.
2. Add crushed pineapple to rehydrated chicken in vertical cutter-mixer or blender and blend until smooth.
- 3a. Add ingredients listed in section 3 of ingredients listing to above.
- b. Mix well.
- c. Heat to 180°F (82°C).
- d. Add back water to maintain formula weight or volume.
- e. Cool to about 50°F (10°C).
- f. Place 8 oz (227 g) in individual containers.
- g. Cover, label, and freeze.

NOTES:

1. Formula includes 10% overrun. Theoretical yield for 100 portions: 110 servings. Theoretical yield for 10 portions: 11 servings.
2. Final weight for 100 servings is 55 lb (24.9 kg). Final volume for 100 servings is 6.4 gal (24.2 L). One gallon (3.8 L) weighs 8.6 lb (3.9 kg).
3. Freeze dehydrated chicken should be kept tightly covered and be used within 24 hours after opening.
4. To serve without freezing, follow directions through step 2d. Serve 8 oz (227 g) portions of heated product.

HAWAIIAN CHICKEN

Dental Liquid

Ingredients

Fruits and Vegetables

1. Juice, lemon frozen - NSN-8915-00-411-2676, MIL-J-11174
2. Pineapple, canned, crushed - NSN-8915-00-410-8421

Food Fats and Oils

3. Salad oil - NSN-8945-00-616-0082, Fed. JJJ-S-30, Type B.

Condiments and Related Products

4. Allspice, ground - NSN-8950-00-170-9562, Fed. EE-S-631, Type II.
5. Cinnamon, ground - NSN-8950-00-170-9573, Fed. EE-S-631, Type II.

Special Procurement

6. Celery, ground
7. Chicken broth, canned
8. Chicken, cooked, ground, freeze dehydrated
9. Onion Powder
10. Starch, Col-Flo 67

BAKED HAM
Dental Liquid

Each Portion
8 oz (227 g)

Ingredients	Percent	100 Portions		Volume (liquids)	10 Portions	
		Pounds	Grams		Weight	Measure
1. Ham, canned, ground, freeze dehydrated	10.00	5.50	2495		9 oz	
Water	40.00	22.00	9979	2 2/3 gal		4 1/4 cup
2. Water	40.78	22.43	10,174	2 2/3 gal		4 1/3 cup
Mustard, flour	1.00	0.55	249			1/4 cup
Onion Powder	1.00	0.55	249			3 tbsps
Starch, Col-Flo 67	1.00	0.55	249			3 tbsps
Salt, table, iodized	0.50	0.28	127			2 1/8 tsp
Liquid smoke	0.20	0.11	50	1/4 cup		1 tsp
Cloves, ground	0.02	0.01	5			1/4 tsp
3. Margarine	4.00	2.20	998			7 tbsps
Sugar, brown	1.50	0.82	372			
TOTALS	100.00	55.00	24,947			

BAKED HAM

Dental Liquid

PROCEDURE:

- 1a. Pulverize, ground, freeze-dehydrated canned ham in vertical cutter-mixer or equivalent blender to a fine powder.
- b. Add warm water, (100°F, 38°C), listed in section 1 of ingredients listing and mix for two minutes.
- c. Allow ham and water mixture to stand for twenty minutes to rehydrate.
2. Combine ingredients listed in section 2 of ingredients listing and mix well to disperse starch.
- 3a. Melt margarine, add brown sugar, and heat until sugar dissolves.
- b. Add ingredients from steps 1 and 2 to margarine and brown sugar and heat to 180°F (82°C).
- c. Add back water to maintain formula weight and volume.
- d. Cool to about 50°F (10°C).
- e. Place 8 oz (227 g) in individual containers.
- f. Cover, label, and freeze.

NOTES:

1. Formula includes 10% overrun. Theoretical yield for 100 portions: 110 servings. Theoretical yield for 10 portions: 11 servings.
2. Final weight for 100 servings is 54.8 lb (24.8 kg). Final volume for 100 servings is 6.6 gal (25.0 L). One gallon (3.8 L) weighs 8.3 lb (3.8 kg).
3. Freeze-dehydrated ham should be kept tightly covered and used within 24 hours after opening.
4. To serve without freezing, follow directions through step 3c and serve 8 oz (227 g) portions of heated product.

BAKED HAM

Dental Liquid

Ingredients

Sugar, Confectionery and Nuts

1. Sugar, brown - NSN-8925-00-127-7325, Fed. JJJ-S-791, Type II.

Food Oils and Fats

2. Margarine - NSN-8945-00-616-0078, Fed. EE-M-0045, Type I.

Condiments and Related Products

3. Cloves, ground - NSN-8950-00-170-9571, Fed. EE-S-631, Type II.
4. Mustard, flour - NSN-8950-00-170-9567, Fed. EE-S-631, Type III.
5. Salt, table, iodized - NSN-8950-00-262-8886, Fed. SS-S-31.

Special Procurement

6. Ham, canned, freeze dehydrated
7. Onion Powder
8. Smoke, liquid, Char-sol C-3
9. Starch, Col-Flo 67.

HAM AND CHEESE FONDUE

Dental Liquid

Each Portion

8 oz (227 g)

Ingredients	Percent	100 Portions		Volume (liquids)	10 Portions	
		Pounds	Grams		Weight	Measure
1. Ham, canned, ground freeze dehydrated	6.25	3.44	1560		5 1/2 oz	
Water	46.24	25.434	11537	3 gal		4 3/4 cup
Cheese, powdered white, cheddar	10.00	5.50	2495			2 cup
2. Water	30.00	16.50	7484	2 gal		3 cup
Starch, Col-Flo 67	1.50	0.82	372			1/4 cup
Onion Powder	1.00	0.55	249			3 tbsp
Mustard, flour	1.00	0.55	249			1/4 cup
Clove, ground	0.01	0.006	3			1/8 tsp
3. Margarine	4.00	2.20	998			1/2 cup
TOTALS	100.00	55.000	24947			

HAM AND CHEESE FONDUE

Dental Liquid

PROCEDURE:

- 1a. Pulverize, ground, freeze-dehydrated, canned ham in vertical cutter-mixer or equivalent blender to a fine powder.
- b. Add warm water, 100°F (38°C) and mix for two minutes.
- c. Allow ham and water mixture to stand for twenty minutes to rehydrate.
- d. Add cheese and blend for one minute.
2. Combine ingredients listed in section 2 of ingredients listing and mix well to disperse starch.
- 2a. Melt margarine.
- b. Add ingredients from sections 1 and 2 and mix well.
- c. Heat to 180°F (82°C).
- d. Add back water to maintain formula weight or volume.
- e. Cool to about 50°F (10°C).
- f. Place 8 oz (227 g) in individual containers.
- g. Cover, label, and freeze.

NOTES:

1. Formula includes 10% overrun. Theoretical yield for 100 portions: 110 servings. Theoretical yield for 10 portions: 11 servings.
2. Final weight for 100 servings is 55 lb (24.9 kg). Final volume for 100 servings is 6.4 gal (24.2 L). One gallon (8.8 L) weighs 8.6 lb (3.9 kg).

HAM AND CHEESE FONDUE

Dental Liquid

Ingredients

Food Oils and Fats

1. Margarine - NSN-8945-00-616-0078, Fed. EE-M-0045, Type I.

Condiments and Related Products

2. Cloves, ground - NSN-8950-00-170-9571, Fed. EE-S-631, Type II.
3. Mustard, flour - NSN-8950-00-170-9567, Fed. EE-S-631, Type III.

Special Procurement

4. Cheese, powdered, white, cheddar (Kraft or equivalent).
5. Ham, canned, freeze dehydrated.
6. Onion Powder
7. Starch, Col-Flo 67

HAM WITH PINEAPPLE SAUCE

Dental Liquid

Each Portion

8 oz (227 g)

Ingredients	Percent	100 Portions		Volume (liquids)	10 Portions	
		Pounds	Grams		Weight	Measure
1. Ham, canned, ground, freeze- dehydrated	6.25	3.44	1560		5 1/2 oz	
Water, warm	30.00	16.50	7484	2 gal		3 1/4 cup
Pineapple, crushed, canned in natural juices, drained	10.00	5.50	2495	2 1/2 qt		1 cup
2. Water	36.54	20.094	9115	2 1/3 gal		3 3/4 cup
Vinegar, cider	7.00	3.85	1746	2 qt		3/4 cup
Starch, Col-Flo 67	1.20	0.66	299			1/4 cup
Cloves, ground	0.01	0.006	3			1/8 tsp
3. Margarine	3.00	1.65	748			1/3 cup
Sugar, light brown	6.00	3.30	1497			3/4 cup
TOTALS	100.00	55.00	24947			

HAM AND PINEAPPLE SAUCE

Dental Liquid

PROCEDURE:

- 1a. Pulverize ground, freeze-dehydrated, canned ham in vertical cutter-mixer or equivalent blender to a fine powder.
- b. Add warm water, 100°F (38°C) and mix for two minutes.
- c. Allow ham and water mixture to stand for twenty minutes to allow ham to rehydrate.
- d. Add pineapple and blend for one minute or until well blended.
2. Combine ingredients listed in section 2 of ingredients listing and mix well to disperse starch.
- 3a. Melt margarine, add brown sugar and heat until sugar dissolves.
- b. Add ingredients from steps 1 and 2 to margarine and brown sugar and heat to 180°F (82°C).
- c. Add back water to maintain formula weight or volume.
- d. Cool to about 50°F (10°C).
- e. Place 8 oz (227 g) in individual containers.
- f. Cover, label, and freeze.

NOTES:

1. Formula includes 10% overrun. Theoretical yield for 100 portions: 110 servings. Theoretical yield for 10 portions: 11 servings.
2. Final weight for 100 servings is 55 lb (24.9 kg). Final volume for 100 servings is 6.5 gal (24.6 L). One gallon (3.8 L) weighs 8.5 lb (3.8 kg).
3. Freeze-dehydrated ham should be kept tightly covered and used within 24 hours after opening.
4. To serve without freezing, follow directions through step 3c. Serve 8 oz (227 g) portions of heated product.

HAM WITH PINEAPPLE SAUCE

Dental Liquid

Ingredients

Sugar, Confectionery and Nuts

1. Sugar, brown - NSN-8925-00-127-7325, Fed. JJJ-S-791, Type II.

Food Oils and Fats

2. Margarine - NSN-8945-00-616-0078, Fed. EE-M-0045, Type I.

Condiments and Related Products

3. Cloves, ground - NSN-8950-00-170-9571, Fed. EE-S-631, Type II.
4. Vinegar - NSN-8950-00-221-0297, Fed. Z-V-401, Type I, Strength B.

Special Procurement

5. Ham, canned, freeze-dehydrated
6. Pineapple, crushed, canned in natural juices
7. Starch, Col-Flo 67

PORK AND BEANS

Dental Liquid

Each Portion

8 oz (227 g)

Ingredients	Percent	100 Portions		Volume (liquids)	10 Portions	
		Pounds	Grams		Weight	Measure
1. Pork, ground, cooked, freeze- dehydrated	6.25	3.44	1560		5 1/2 oz	
Water	30.00	16.50	7484	2 gal		3 1/4 cup
2. Beans, baked, canned, small pea in tomato and molasses sauce	19.00	10.45	4740			1 3/4 cup
3. Water	33.377	18.362	8329	2 1/4 gal		3 1/2 cup
Tomato paste	9.00	4.95	2245	2 1/3 qt		1 cup
Salt, table, iodized	1.20	0.66	299			5 tsp
Starch, Col-Flo 67	0.40	0.22	100			3 1/2 tsp
Onion Powder	0.40	0.22	100			3 3/4 tsp
Paprika	0.20	0.11	50			2 tsp
Sugar	0.10	0.05	23			1/2 tsp
Pepper, white, ground	0.02	0.01	4			1/8 tsp
Mace, ground	0.013	0.007	3			1/8 tsp
Nutmeg, ground	0.01	0.005	2			<1/8 tsp (pinch)
Cinnamon, ground	0.01	0.005	2			<1/8 tsp (pinch)
Cloves, ground	0.01	0.005	2			<1/8 tsp (pinch)
Coriander, ground	0.005	0.003	1			<1/8 tsp (pinch)
Cardamor., ground	0.005	0.003	1			<1/8 tsp (pinch)
TOTALS	100.00	55.00	24945			
			55			

PORK AND BEANS

Dental Liquid

PROCEDURE:

- 1a. Pulverize ground, cooked, freeze-dehydrated pork in vertical cutter-mixer or equivalent blender to a fine powder.
- b. Add warm water, 100°F (38°C) and mix for two minutes.
- c. Allow pork and water mixture to stand for twenty minutes to rehydrate.
- 2: Add canned baked beans (not drained) to pork and water in vertical cutter-mixer or blender and blend thoroughly.
- 3a. Combine ingredients listed in section 3 of ingredients listing and mix well to disperse starch.
- b. Combine ingredients from steps 1, 2, and 3 and mix well.
- c. Heat to 180°F (82°C).
- d. Add back water to maintain formula weight or volume.
- e. Cool to about 50°F (10°C).
- f. Place 8 oz (227 g) in individual containers.
- g. Cover, label, and freeze.

NOTES:

1. Formula includes 10% overrun. Theoretical yield for 100 portions: 110 servings. Theoretical yield for 10 portions: 11 servings.
2. Final weight for 100 servings is 55 lb (24.9 kg). Final volume for 100 servings is 6.6 gal (24.9 L). One gallon (3.8 L) weighs 8.2 lb (3.7 kg).
3. Freeze-dehydrated pork should be kept tightly covered and used within 24 hours after opening.
4. To serve without freezing, follow directions through step 3d. Serve 8 oz (227 g) portions of heated product.

PORK AND BEANS

Dental Liquid

Ingredients

Fruits and Vegetables

1. Tomato paste - NSN-8915-00-582-4058, Fed. JJJ-V-1746/22, Type I, concentration d, texture 1.

Sugar, Confectionery and Nuts

2. Sugar - NSN-8925-00-127-3073, Fed. JJJ-S-791, Class A, Type I.

Condiments and Related Products

3. Cinnamon, ground - NSN-8950-00-9573, Fed. EE-S-631, Type II.
4. Cloves, ground - NSN-8950-00-170-9571, Fed. EE-S-631, Type II.
5. Mace, ground - NSN-8950-00-170-9568, Fed. EE-S-631, Type II.
6. Nutmeg, ground - NSN-8950-00-127-8047, Fed. EE-S-631, Type II.
7. Paprika, ground - NSN-8950-00-170-9563, Fed. EE-S-631.
8. Pepper, white, ground - NSN-8950-00-245-2302, Fed. EE-S-631, Type II.
9. Salt, table, iodized - NSN-8950-00-262-8886, Fed. SS-S-31.

Special Procurement

10. Beans, baked, canned, small pea in tomato and molasses sauce.
11. Cardamon, ground
12. Coriander, ground
13. Onion Powder
14. Pork, ground, cooked, freeze-dehydrated
15. Starch, Col-Flo 67

PORK CREOLE
Dental Liquid

Each Portion
8 oz (227 g)

Ingredients	Percent	100 Portions		Volume (liquids)	10 Portions	
		Pounds	Grams		Weight	Measure
1. Pork, ground, cooked, freeze- dehydrated	6.25	3.44	1560		5 1/2 oz	
Water	30.00	16.50	7484	2 gal		3 1/4 cup
Peppers, green, frozen, diced	3.00	1.65	748			1/2 cup
2. Water	46.18	25.40	11521	3 gal		4 3/4 cup
Tomato paste	10.00	5.50	2495	2 1/2 qt		1 cup
Salad oil	2.00	1.10	499	2 1/4 cup		1/4 cup
Onion Powder	1.00	0.55	249			3 tbsp
Salt, table, iodized	0.80	0.44	200			3 1/2 tsp
Starch, Col-Flo 67	0.50	0.27	122			4 1/4 tsp
Celery, ground	0.20	0.11	50			1 tbsp
Liquid smoke	0.05	0.03	14	1 tbsp		1/4 tsp
Pepper, black	0.02	0.01	5			1/4 tsp
TOTALS	100.00	55.00	24947			

PORK CREOLE

Dental Liquid

PROCEDURE:

- 1a. Pulverize ground, cooked, freeze-dehydrated pork in vertical cutter-mixer or equivalent blender to a fine powder.
- b. Add warm water, 100°F (38°C) and mix for two minutes.
- c. Allow pork and water mixture to stand for twenty minutes to rehydrate.
- d. Add thawed diced green peppers and blend for one minute or until well blended.
- 2a. Combine ingredients listed in section 2 of ingredients listing and mix well to disperse starch.
- b. Add ingredients from step 1.
- c. Heat to 180°F (82°C).
- d. Add back water to maintain formula weight or volume.
- e. Cool to about 50°F (10°C).
- f. Place 8 oz (227 g) in individual containers.
- g. Cover, label, and freeze.

NOTES:

1. Formula includes 10% overrun. Theoretical yield for 100 portions: 110 servings. Theoretical yield for 10 portions: 11 servings.
2. Final weight for 100 servings is 55 lb (24.9 kg). Final volume for 100 servings is 6.5 gal (24.6 L). One gallon (3.8 L) weighs 8.5 lb (3.8 kg).
3. Freeze-dehydrated pork should be kept tightly covered and used within 24 hours after opening.
4. To serve without freezing, follow directions through step 2d. Serve 8 oz (227 g) portions of heated product.
5. Canned, drained, diced green peppers may be substituted for frozen diced green peppers.

PORK CREOLE

Dental Liquid

Ingredients

Fruits and Vegetables

1. Peppers, frozen, green, diced - NSN-8915-00-081-0856, Fed. HHH-V-1745/15, Type I, Style E.
2. Tomato paste - NSN-8915-00-582-4058, Fed. JJJ-V-1746/22, Type I, concentration d, texture 1.

Food Oils and Fats

3. Salad oil - NSN-8945-00-616-0082, Fed. JJJ-S-30, Type B.

Condiments and Related Products

4. Pepper, black, ground - NSN-8950-00-616-5486, Fed. EE-S-631, Type II.
5. Salt, table, iodized - NSN-8950-00-262-8886, Fed. SS-S-31.

Special Procurement

6. Celery, ground
7. Onion Powder
8. Pork, ground, cooked, freeze-dehydrated
9. Smoke, liquid, Char-sol C-3
10. Starch, Col-Flo 67

SWEET AND SOUR PORK

Each Portion

Dental Liquid

8 oz (227 g)

Ingredients	Percent	100 Portions		Volume (liquids)	10 Portions	
		Pounds	Grams		Weight	Measure
1. Pork, ground, cooked, freeze- dehydrated	6.25	3.44	1560		5 1/2 oz	
Water	24.65	13.55	6146	1 2/3 gal		2 1/2 cup
Pineapple, crushed canned in natural juices, drained	10.00	5.50	2495			1 cup
2. Water	40.00	22.00	9979	2 2/3 gal		4 1/4 cup
Vinegar, cider(5%)	8.00	4.40	1996	2 qt		3/4 cup
Starch, Col-Flo 67	1.00	0.55	249			3 tbsp
Soy Sauce	1.00	0.55	249	1 cup		5 1/4 tsp
Garlic, granulated	0.10	0.06	27			3/4 tsp
3. Margarine	3.00	1.65	748			1/3 cup
Sugar, light brown	6.00	3.30	1497			3/4 cup
TOTALS	100.00	55.00	24946			

SWEET AND SOUR PORK

Dental Liquid

PROCEDURE:

- 1a. Pulverize ground, cooked, freeze-dehydrated pork in vertical cutter-mixer or equivalent blender to a fine powder.
- b. Add warm water, 100°F (38°C), listed in section 1 of ingredients listing and mix for two minutes.
- c. Allow pork and water mixture to stand for twenty minutes to rehydrate.
- d. Add pineapple and blend for one minute or until well blended.
- 2a. Combine ingredients listed in section 2 of ingredients listing and mix well to disperse starch.
- 3a. Melt margarine, add brown sugar and heat until sugar dissolves.
- b. Add ingredients from steps 1 and 2 to margarine and brown sugar and heat to 180°F (82°C).
- c. Add back water to maintain formula weight or volume.
- d. Cool to about 50°F (10°C).
- e. Place 8 oz (227 g) in individual containers.
- f. Cover, label, and freeze.

NOTES:

1. Formula includes 10% overrun. Theoretical yield for 100 portions: 110 servings. Theoretical yield for 10 portions: 11 servings.
2. Final weight for 100 servings is 55 lb (24.9 kg). Final volume for 100 servings is 6.3 gal (23.8 L). One gallon (3.8 L) weighs 8.6 lb (3.9 kg).
3. Freeze-dehydrated pork should be kept tightly covered and used within 24 hours after opening.
4. To serve without freezing, follow directions through step 3c. Serve 8 oz (227 g) portions of heated product.

SWEET AND SOUR PORK

Dental Liquid

Ingredients

Fruits and Vegetables

1. Garlic, dehydrated, granulated - NSN-8915-00-149-1571, Fed. JJJ-0-1866, Type II.

Sugar, Confectionery and Nuts

2. Sugar, brown - NSN-8925-00-127-7325, Fed. JJJ-S-791, Type II.

Food Oils and Fats

3. Margarine - NSN-8945-00-616-0078, Fed. EE-M-0045, Type I.

Condiments and Related Products

4. Soy sauce - NSN-8950-00-935-3254, Fed. EE-S-610.
5. Vinegar - NSN-8950-00-221-0297, Fed. Z-V-401, Type I, Strength B, (5%).

Special Procurement

6. Pineapple, crushed, canned, in natural juices.
7. Pork, ground, cooked, freeze-dehydrated.
8. Starch, Col-Flo 67

TABLE 1

Sensory Evaluations of Dental Liquid Entrees

	<u>Page Number</u>	<u>Recipe Number</u>	<u>Color</u>	<u>Odor</u>	<u>Flavor</u>	<u>Texture</u>	<u>Appearance</u>
Beef	10	DL-1	7.1*	7.1	7.0	7.0**	7.2
	13	DL-2	7.1	7.0	7.2	7.1	7.1
	16	DL-3	7.2	7.0	7.0	6.6**	7.2
	19	DL-4	7.1	7.1	6.8	6.4**	6.8
	22	DL-5	7.1	7.1	6.9	6.7**	7.1
	25	DL-6	7.0	7.0	6.9	6.8**	7.0
	28	DL-7	7.0	7.0	6.9	6.8**	7.1
Chicken	31	DL-8	6.9	6.8	6.5	6.7**	6.8
	34	DL-9	7.1	7.0	6.6	6.3**	7.0
	37	DL-10	6.8	6.7	6.2	6.7**	6.5
	40	DL-11	7.0	7.0	6.9	6.7**	7.0
	43	DL-12	7.1	7.1	6.8	7.1	7.1
Ham	46	DL-13	6.7	6.7	6.0	6.7	6.6
	49	DL-14	7.0	7.2	6.9	7.2	7.0
	52	DL-15	7.2	7.3	7.1	6.9	7.0
Pork	55	DL-16	7.1	7.2	6.9	6.8	7.0
	58	DL-17	6.9	7.0	6.6	6.7	7.0
	61	DL-18	6.8	7.1	6.9	6.6	7.0

*Based on a nine point scale in which 1 = extremely poor and 9 = excellent

**Starch level has been decreased to make a thinner product

REFERENCES

- Darsch, G., Young, R., Shaw, C., and Tuomy, J.; Entree Production Guides for Modified Diets at Walter Reed Army Medical Center, Part IV: Meat Substitute Entrees, Natick/TR-79/013, 1979.
- Helmer, R., and Schlup, H.; Meat Entree Production Guides Developed for Use in Fort Lee Interim Central Food Preparation Facility, Natick/TR-74-27 (FEL) March 1975.
- McNutt, J. Branagan, M., McPhee, J., Albertini, L., and Klick, M.; Entree Production Guides for Modified Diets at Walter Reed Army Medical Center, Part V: Production Guides for Patients on Renal Diets, Natick/TR-79/014, 1979.
- Rahman, A., Gorfein, H., Kelley, N., Schafer, G., Swantak, W., and Westcott, D.; Production Guides for Vegetables, Entrees, Soups, Desserts, Pastries and Salads Developed for Use in Central Food Preparation Facility, Natick/TR-75-35 (FEL 13) September 1974. (A.D. A001725).
- Rahman, A., Schlup, H., Schafer, G., Swantak, W., and Kelley, N.; Production Guides for Meat and Vegetable Entrees and Desserts Developed for Use in the Frozen Foil Pack Feeding System, F. E. Warren Air Force Base, Natick/TR-70-20 (FEL) February 1976 (A.D. 694354).
- Shaw, C., Darsch, G., Legris, G., Masuoka, Y., and Tuomy, J.; Entree Production Guides for Modified Diets at Walter Reed Army Medical Center, Part I: Consolidated Modified Meat Entrees, Natick/TR-79/010, 1979.
- Shaw, C., Loveridge, V., Darsch, G., and Tuomy, J.; Entree Production Guides for Modified Diets at Walter Reed Army Medical Center, Part II: Pureed Bland Entrees, Natick/TR-70/011, 1979.
- Shaw, C., Loveridge, V., Darsch, G., and Tuomy, J.; Entree Production Guides for Modified Diets at Walter Reed Army Medical Center, Part III: Dental Liquid Entrees, Natick/TR-79/012, 1979.
- Tuomy, J., Walker, G., Hinnergardt, L.; Pilot Plant Production of Frozen Entree Items for the Navy, Natick/TR-79-31A (FEL-59) September 1976 (A.D. A031327).
- Walker, G., Tuomy, J., Kanter, C.; Egg Products for Use in a Cook/Freeze System, Natick/TR-76-28 (FEL-57) August 1976 (A.D. A031327).
- Young, R., Shaw, C., Darsch, G., Tuomy, J., and Walker, G.; Meat and Fish Entree Production Guides Prepared for Walter Reed Army Medical Center, Natick/TR-77/005 (FEL 77-004) April 1977 (A.D. A004476).

DENTAL LIQUID ENTREES

INDEX

	Recipe No.	Page No.
Beef		
Beef Burgundy	DL-1	10
Beef Stroganoff	DL-2	13
Beef with Gravy	DL-3	16
Beef with Spaghetti Sauce	DL-4	19
Chili	DL-5	22
Sloppy Joe	DL-6	25
Yankee Pot Roast	DL-7	28
Chicken		
Chicken and Gravy	DL-8	31
Chicken Cacciatore	DL-9	34
Chicken Curry	DL-10	37
Coq au Vin	DL-11	40
Hawaiian Chicken	DL-12	43
Ham		
Baked Ham	DL-13	46
Ham and Cheese Fondue	DL-14	49
Ham with Pineapple Sauce	DL-15	52
Pork		
Pork and Beans	DL-16	55
Pork Creole	DL-17	58
Sweet and Sour Pork	DL-18	61